PROCESS FOR PRODUCING HIGH-STRENGTH POLYPYRROLE FILM

Examiner: K. Han SN: 10/536,940 Art Unit: 1795 October 27, 2009

Detailed Action

1. The Applicant's amendment filed on June 23, 2009 was received. Claims 7-10 were amended. Claims 11-14 were added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 7 is objected to because of the following informalities: The word "flurine" should be spelled "fluorine". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 10 recites the limitation "said polypyrrole films". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The claim rejections under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. on claims 7-10 are withdrawn, because the independent claim 7 has been amended.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saiki et al. (US 5135618) in view of Naarmann et al. (EP 0166980, machine translation, verified by oral translation).

Regarding claims 7, 9, 11, and 13, Saiki discloses a solid state electrolytic capacitor with an anode made of metal (5:26-29) which forms a conductive polymer compound layer of polypyrrole including tetrabutylammonium tetrafluoroborate (fluorine atoms) for polymerization at a current density of 10mA/cm^2 (4:57-5:2). Saiki is silent towards the fluorine atoms bonding to the central atoms or the polypyrrole films to have a tensile strength not less than 60 MPa.

It is well known and obvious to one of ordinary skill in the art that during polymerization the free radicals add to the monomer or the appropriate functional groups meet thereby inherently providing for the fluorine atoms to bond to the central atoms to continue the polymerization reaction. It has been held by the courts that if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F2d. 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP 2112.01.

Naarmann teaches a method for forming a polymer of pyrrole which is formed in a polymerization reaction including trifluoromethanesulfonate (Example 1 and Table 2, Example 14) for use in electrodes, semiconductor component etc. which require a combination of high mechanical strength and high electrical conductivities (Page 3, Paragraphs 11-12) teaching these as result effective variables to resist tearing and have balanced properties. It would have been obvious to one of ordinary skill in the art at the time of the invention to have a minimum tensile strength since it has been held that discovering the optimum ranges for a result effective variable such as mechanical strength of a material involves only routine skill in the art in the absence of showing of criticality in the claimed range (MPEP 2144.05) In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 8 and 10, Naarman discloses has an insignificant elongation (Page 3, Paragraph 11) for the polymer showing a degree of flexibility.

Regarding claims 12 and 14, the Applicant is directed towards the discussion for claims 7, 9, 11, and 13 as discussed above.

Response to Arguments

10. Applicant's arguments with respect to claims 7-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact/Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwang Han whose telephone number is (571) 270-

5264. The examiner can normally be reached on Monday through Friday 8:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. H./
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/Dah-Wei D. Yuan/
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